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The Science of Place: Ergonomics and its Impact on Nurses

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Ergonomics Reduces Injuries

Healthcare professionals are responsible for many people's lives. In their daily routines, they care for a number of people and have a lasting impact on patients. But who is looking out for them? Nursing can take a toll on the body and one way to mitigate long-term bodily damage is through an ergonomic work environment.

Ergonomics is a branch of science dedicated to a holistic working experience. It is the study of people in their working environment and the ways that they react and respond to it. To practice ergonomics is to evaluate the human experience in relation to their workplace-- the ways in which that space interacts with the bodies in it. It is a multidisciplinary science that uses data and techniques from several fields including anthropometry, biomechanics, environmental physics, applied psychology, and social psychology. Ergonomics, or human factors, has the goal to eliminate discomfort and risk of injury due to workplace procedures, equipment, or constraints.

Ergonomics has the power to change the way that nurses conduct their work. How can a concept have such an impact? Read further to discover the ways that enhanced ergonomic workstations have a profound impact on the efficiency, health, and overall well-being of nurses in the healthcare industry.

Why Ergonomics is Important in Healthcare

Nursing is a demanding profession—one that requires strength, intelligence, diligence, and compassion. That combination of traits is hardly an easily achievable feat. Along with heightened mental agility, nursing is an inherently physical profession.

Nurses spend a lot of their time at their workstations—documenting patient progress, checking patient records, and sorting patient medication. That workstation should be equipped to help nurses execute their tasks in the most safe and effective way possible.

There are many work-related dangers that nurses face on a daily basis. According to the Bureau of Labor Statistics, nursing and residential care facilities account for the highest reported rates of workplace injury (2016). These injuries are often in the form of musculoskeletal disorders (MSD) such as carpal tunnel syndrome or any other injury that affects the muscles, bones, and/or joints.

The Oregon Nurses Association points out that in any given 8 hour shift a nurse or health care worker may have to lift (patient lifts or transfers) up to 1.8 tons

That would be like lifting a full-grown walrus every shift!

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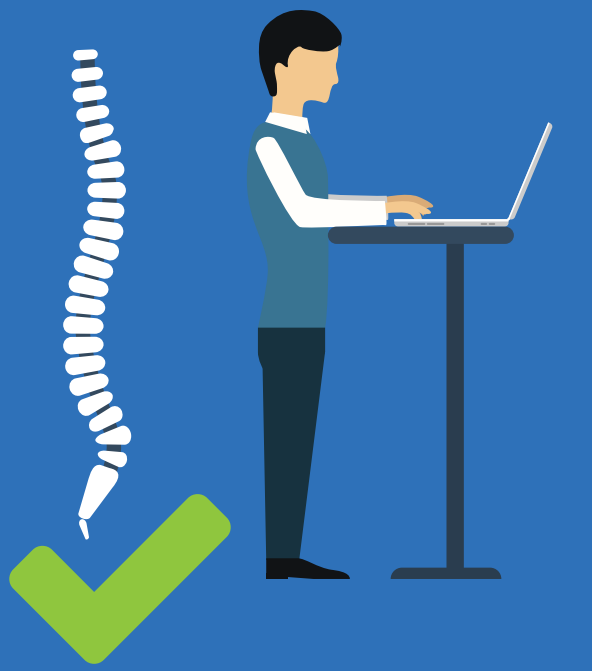
Cumulative trauma disorders (CTDs) are another commonly cited work-related injury. These occur from doing a repetitive motion over a long period of time, examples being neck, back, and eye-strain. Both MSDs and CDTs create the highest percentage of work-related injuries and are also predicted to increase in the future. Research suggests that increased technological use is a factor contributing to the development of CTDs and that people who spend over 4 hours a day at a computer are at a higher risk to develop one.

Technology has changed the landscape of many working environments, and while that has brought about positive advancements it has also brought its own unique set of challenges. Technology is changing the way the healthcare industry practices medicine. With technology, medical professionals have had so many revolutionary breakthroughs that have altered the way healthcare is practiced. While advantageous, it is also important to examine the toll technology can take on the body. Digital work spaces are a commonplace tradition, making the need for an ergonomic workstation even more imperative.



What Makes a Workstation Ergonomic?

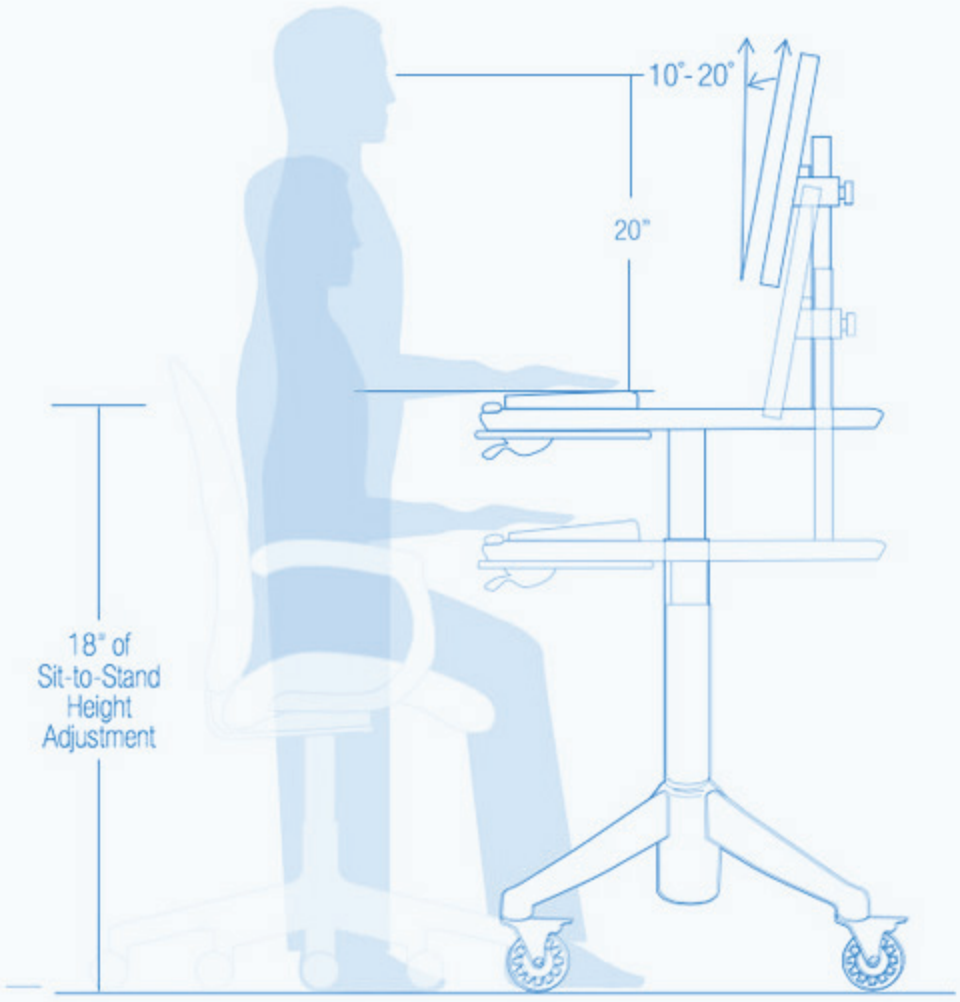
An ergonomic workstation goes beyond the comfort of the person using it. Rather it extends to the proper construction to preserve the longevity of the body's health.

In a study conducted by Karen Nielson and Alison Trinkoff entitled Applying Ergonomics to Nurse Computer Workstations, researchers found a positive relationship between the design of the workstation and the overall safety of the healthcare worker. This comprehensive study suggests a list of characteristics essential to a proper, ergonomic computer workstation.

These features are important to the design of an ergonomic workstation and have been proven to mitigate stress of muscles and joints of the users.

Important Factors Needed for a Workstation to be Ergonomic

- Adjustable workstation equipment (including counter height)
- Workstation adaptable to accommodate changing technology
- Monitor vantage points ranging from 16 to 48 inches
- Proper lighting
- Keyboard orientation ranging from 0 degree to 15 degree slopes
- Provide wrist support for typing and other computer-related tasks
- Chairs must possess adequate lumbar support
- Chair legs must have 90 degree angles
- Chair must be adjustable so the user's legs can reach the floor
- Use a speakerphone or traditional headset as opposed to a traditional phone.
- A mouse or trackball should be placed to the left of the monitor (regardless of handedness of user)
- Key forces of less than 48 g on keyboard



Of all of the factors above, one of the most unanimous one is adjustability. Each person is built differently, and a workstation should be able to accommodate the needs of any person who uses it. If the workstation is not adjustable, it can force the nurse to assume an uncomfortable hunched or strained position in order to use the device which could in turn lead to long-term damage.

LEARN MORE WITH OSHA'S E-TOOL

If you would like more information on what factors comprise an ergonomic workstation, refer to the Occupational Safety and Health Administration's (OSHA) eTool.

Is an Ergonomic Workstation Really Necessary?

How would a nurse's experience differ when using a workstation that was ergonomic as opposed to one that was not? Let's find out.

OSHA indicates that employers pay about 1 billion dollars every week for direct workman compensation costs. As Ryane Golke in her "4 Big Ways to Prevent Ergonomic Injury Among Nurses" cleverly points out safety may not be a "revenue generating department" but it is a "cost-cutting" department. In the same 2003 article by Neilson and Trinkoff, a study was reviewed in which an institution implemented an ergonomics program that resulted in a 21% decrease in time lost because of occupational injuries over a 3-year period.

The benefits of ergonomics are not only monetary; they are also physical. The cost-cutting consequences of ergonomic workstations prove that you can save money and promote health and wellness simultaneously.

In this way, ergonomics becomes holistic. Understanding the nuances of an ergonomic workstation is important to its implementation. Every person in the space has a duty to know the benefits of ergonomics and help ensure that the standards are adhered to. Working toward an environment that thrives in an ergonomic way will improve the health of everyone who works there.

Why Sit-to-Stand Workstations are a Game-Changer

In recent years, researchers, employers, and employees alike are increasingly concerned with the amount of time workers spend sitting down.

According to a study published by Taylor and Francis in Dec. 2017, researchers Agarwal et al. found that having a sit-to-stand workstation significantly decreased the likelihood of developing lower back pain. BMC public health also published a study by Graves et al. in 2015 that found, "short-term use of a feasible sit-stand workstation reduced daily sitting time and led to beneficial improvements in cardiometabolic risk parameters in asymptomatic office workers".

While each study has its limitations, the findings suggest the need for researchers to continually observe the use of sit-to-stand workstations because they could have "important ramifications for the prevention and reduction" of workplace-related injuries.

In one 7-week study, participants using standing desks reported less stress and fatigue than those who remained seated the entire work day.

Reference:
https://www.ncbi.nlm.nih.gov/pubmed/23057991

Altus: Carts That Move With You

At Altus, we have you in mind.

Optimizing the healthcare space in an efficient and seamless way is our primary goal. One of the ways we work to achieve that goal is through the workstations we create.

Our workstations put the needs of the nurse first. Their ergonomic design allows for adjustable components to fit the needs of any nurse who uses it. We have adjustments to our monitor height and tilt, our keyboard position, and our Ascend and Ascend EL height adjustment lift allow each caregiver to be seated or standing with one single motion. All of these adjustments give the user more time to focus on the task at hand and find their personal comfort zone faster.

As the research states, adjustability is one of the primary factors that must exist in an ergonomic workstation, and Altus is committed to building mobile carts that are lightweight and highly efficient in healthcare environments.

Nurses spend a lot of time at work; time that shouldn't prove to be harmful to them as they are helping others. An ergonomic workstation is a crucial piece of equipment, helping nurses to stay happy and healthy longer. Let us help you!

Sources

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About Altus

At Altus our goal is to improve how clinicians and staff work. We've spent the last 17 years innovating to build the best workstation solutions on the market. It's not only about finding an affordable solution, but finding the most ergonomic, durable, and intuitive workstations. Our sit to stand workstation are built to improve comfort which in turn increases productivity.

We understand there is power in productivity. We study how real people work to enhance their workflow. Our innovative designs help clinicians, educators, and staff face a wide range of challenges. Our Altus technology workstations offer optimized mobility, adjustability, access to patient data, and improved clinician well-being.

Our solutions fit many areas in the healthcare, education, and office setting.

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